RailBusinessDaily

Knorr-Bremse wins major HVAC remote monitoring contract

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Knorr-Bremse has been awarded a long-term remote condition monitoring contract by Siemens Mobility.

The business will oversee remote condition monitoring of the HVAC systems on 172 trains built and maintained by Siemens Mobility for UK operator South Western Railway. The upgrading and modernization of the HVAC systems started this year, and is scheduled for completion in the first quarter of 2022, so that the new solution can go live in spring of the same year.

Dr. Jürgen Wilder, member of the executive board of Knorr-Bremse AG and responsible for the Rail Vehicle Systems division, said: “The rail industry has huge untapped potential for digitalization due to factors such as high security standards, substantial investment requirements, and the need to become even more efficient. Against this backdrop, we are systematically continuing to develop Knorr-Bremse into a digital systems supplier, and to expand our portfolio of remote condition monitoring solutions. Therefore, we are delighted to have established this digital partnership with Siemens Mobility. The contract is a first for the rail industry, and will help the operator to offer its passengers an even more sustainable, affordable and modern rail service.”

Dr Nicolas Lange, chairman of the management board of Knorr-Bremse Rail Vehicle Systems, said: “We are delighted to have signed this important contract, which further strengthens our partnership with Siemens Mobility in the field of digital services. By upgrading several large passenger train fleets with our remote condition monitoring solutions, we are helping to bring them into the digital age. Big data insights and new CO2 sensors will help to optimize fleet maintenance costs, reduce the trains’ energy consumption and control the flow of fresh air into the passenger compartments even more precisely.”

Knorr-Bremse has started upgrading a total of 733 HVAC systems on the 172 trains with its digital remote condition monitoring solution, enhancing Siemens Mobility’s condition based 2/3 maintenance (CBM) capability. The fleets comprise 45 five-car Class 444 and 127 four-car Class 450 regional trains. The original HVAC systems were made by Merak, Knorr-Bremse’s global subsidiary for climate control solutions for trains. The upgrade will allow them to capture large quantities of operating data that will then be intelligently analysed by Knorr-Bremse via the cloud.

The resulting big data insights will enable end-to-end system monitoring, allowing Siemens Mobility’s maintenance teams to spot early indications of repairs. In turn, this will help to ensure availability by reducing train downtime and depot turnaround times. All the HVAC systems will also be fitted with CO2 sensors, allowing them to measure air quality and increase the intake of fresh air as and when required. Because fresh air often has to be cooled or heated, continuously adjusting the fresh air intake cuts energy consumption, improving the trains’ overall environmental footprint.

Collaboration between Knorr-Bremse RailServices and Siemens Mobility’s Rail Service on maintenance projects began four years ago with a multiple friction material order. The relationship was strengthened one year later by a bundled service agreement for the entire braking system covering several countries. It was further consolidated by an agreement to cooperate on Siemens Mobility’s Railigent® application suite. As part of the latest project, Knorr-Bremse will add its remote condition monitoring solution to the Railigent® open ecosystem, and thereby create considerable value to optimize rail maintenance and operations.

The new aftermarket contract is another digital maintenance project that Knorr-Bremse has helped to kick off this year. In early 2021, the Company announced a multiannual cooperation agreement with Deutsche Bahn on the intelligent use of vehicle data for condition-based maintenance of components such as entrance systems.